
Appendix I

Definitions

Azeotrope - A mixture of two or more components that at the boiling point the liquid and vapor phases have the same amount of each component.

Atmosphere - A unit of measurement for pressure. One atmosphere roughly equals the pressure exerted at sea level or by a column of mercury 760 millimeters in height at sea level at 0 degrees Celcius.

BTU - British Thermal Unit. The quantity of heat required to raise the temperature of one pound of water one degrees Fahrenheit at a specified temperature.

Combustible Liquid - as defined by the 1991 Uniform Fire Code is a liquid having a flash point at or above 100 F (degrees Fahrenheit). Combustible liquids are further subdivided into the following three categories: Class II liquids have flash points at or above 100 F and below 140 F; Class III-A liquids have flash points at or above 140 F and below 200 F; Class III-B liquids have flash points above 200 F.

Efficiency - A measurement of how many simple distillations occur in a fractionating column.

Equilibration Time - The amount of time it takes a still column to have reach an equilibrium between the falling liquid and rising vapor.

Equilibrium - The point at which the rates of evaporation and condensation are equal and the vapor pressure of the liquid is constant.

Flammable Liquid - as defined by the 1991 Uniform Fire Code is a liquid having a flash point below 100 F (degrees Fahrenheit) and having a vapor pressure not exceeding 40 psia at 100 F. Class I liquids include those having flash points below 100 F and are further subdivided into Class I-A, I-B, and I-C.

Flash Point - as defined by the 1991 Uniform Fire Code is the minimum temperature at which a liquid gives off vapors in sufficient concentrations to form an ignitable mixture with air near the surface of the liquid within the vessel as specified by appropriate test procedures.

Forecut - The first low-boiling point liquid removed at the beginning of a distillation.

Fractional Distillation - Technique used to separate out each component from a mixture of volatile liquids.

Heartcut - The liquid obtained during after the forecut of a distillation. This liquid is generally the purest material obtained.

Holdup - The liquid that coats the inside walls of a distillation apparatus

Ignitable Waste - A RCRA definition for hazardous waste classification. It is a easily combustible or flammable waste defined as having a flash point below 140 degrees Fahrenheit.

Normal Boiling Point - The boiling point of a liquid at 1 atmosphere (760 torr).

Pressure Drop - The difference in pressure between the distillation flask and the head of the distillation column.

Pot Residue - Material that remains in the distillation flask after the distillation has been completed.

Reflux Ratio - A ratio that measures the amount of material withdrawn from the column to that which is returned to a distillation column.

Stream Standards - The State of New Mexico State Stream Standards. These are set by the New Mexico Water Quality Control Commission to protect the beneficial uses of the state's streams and rivers.

Simple Distillation (basic distillation) - A procedure used for separating volatile liquids from nonvolatile liquids. The liquid and the vapor phases reach equilibrium at the boiling point.

Theoretical Plates - One theoretical plate is equal to one liquid-vapor equilibration or one simple distillation.

Throughput - A measurement of how much vapor flows through a column and usually with units of volume per time.

Vapor-Liquid Composition Curve - A graph showing the composition of liquid and vapor at different temperatures and compositions.

Vapor Pressure - The pressure exerted by gas molecules that evaporate from a liquid placed in an enclosed container. The term is often used to mean equilibrium vapor pressure or the vapor pressure at the point of equilibrium.

Wastestream - A wastestream is a material that can no longer be used for its intended purpose and will have to be discarded through recycling, incineration, sewerage or any other disposal method.